

**Helping your child with math at home**  
(taken from <http://connectedmath.msu.edu/parents/tips.html>)

In helping children learn, one goal is to assist children in figuring out as much as they can for themselves (e.g., constructing meaning). You can help by asking questions that guide, without telling what to do.

Good questions and good listening will help children make sense of mathematics, build self-confidence, and encourage mathematical thinking and communication. A good question opens up a problem and supports different ways of thinking about it. Here are some questions you might try; notice that none of them can be answered with a simple "yes" or "no." By using these questions, and by referring to the notebook that students create and use in class, you will be building on in-class experiences and contributing to your child's success. (See [Getting Organized](#) for more information on the student Notebook.)

**Solving a Problem**

**Getting Started**

- What do you need to find out?
- What do you need to know?
- How can you get the information?
- Where can you begin?
- What terms do you understand or not understand?
- Have you solved similar problems that would help? Let's look at your notebook.

**While Working**

- How can you organize the information?
- Can you make a drawing (model) to explain your thinking?
- Are there other possibilities?
- What would happen if...?
- Can you describe an approach (strategy) you can use to solve this?
- What do you need to do next?
- Do you see any patterns or relationships that will help solve this?
- How does this relate to...?
- Can you make a prediction?
- What did you...?
- What assumptions are you making?

**Reflecting about the solution**

- How do you know your solution (conclusion) is reasonable?
- How did you arrive at your answer?
- How can you convince me your answer makes sense?
- What did you try that did not work?
- Has the question been answered?
- Can the explanation be made clearer?

**Responding (helping your children clarify and extend their thinking)**

- Can you explain it in a different way?
- Is there another possibility or strategy that would work?
- Help me understand this part...
- How does the math in this problem relate to the mathematics in this unit? in previous units?
- Is there anything you want to add to your notebook?
- Are there any questions you want to ask your teacher?

# Parents as Questioners

Mathematical investigations present new and sometimes unexpected mathematical situations, so the teacher cannot have taught the way to solve the problem in advance. The student needs to apply prior knowledge in ways that make sense to the situation. There may be many paths to follow and many outcomes, depending on the problem; the student must make his or her own plan for finding a solution.

Parents can assist their children to be independent problem solvers by becoming guides or questioners. They do not need to know how to solve the problem themselves, but can help the students think through the problem and make a realistic plan for solving it.

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**USE FREELY** any questions that will help students think about the way they are tackling the problem:

- What have you tried so far?
- Is there another way to look at the problem?
- Can you explain this to me?
- What makes sense so far?
- Is this like any other problem that you have worked on in any way?
- What is it you are trying to do/solve/find out?

**USE SPARINGLY** those questions that tend to direct students' thinking:

- How might you organize this?
- Can you make a table of your results?
- Can you see any patterns?
- Have you tried smaller (or simpler) cases?
- How can you get started?
- Have you checked to see that the solution works?
- What would happen if...?

**AVOID** any hint or question referring to the particular problem:

- Do you recognize square numbers?
- Explore it like this, or try this...
- Why not try three counters?
- That's not quite what I had in mind...
- No, you should...